

REMARKS/ARGUMENTS

In the Office Action, the Examiner rejected claims 1-12 and 20 under 35 U.S.C. 102(e) as being anticipated by *Long* (US 2003/0214267 A1). The rejections are fully traversed below. Reconsideration of the application is respectfully requested based on the following remarks.

Claims 13-19 have been canceled without prejudice or disclaimer. New claims 21-32 have been added. Accordingly, claims 1-12, 20-32 are now pending in this application.

TELEPHONE INTERVIEW

Examiner Nguyen T. Ha is thanked for the courtesy of a telephone interview extended to Applicants' representative on 19 July 2005. During this interview, the rejected claims were discussed with reference to the cited art. Further clarification of the patentability of the rejected claims is provided below for the Examiner's convenience.

PATENTABILITY OF CLAIMS 1-12 AND 20 UNDER 35 U.S.C. 102(e)

Claim 1 pertains to a module having inductor-free circuitry for controlling voltage imbalances between a pair of capacitors connected in a series arrangement. The module requires: "a first terminal configured for connection to a positive plate of the first capacitor; a second terminal configured for connection to a negative plate of the first capacitor and to a positive plate of the second capacitor; a third terminal configured for connection to a negative plate of the second capacitor; and an active element integrated within the inductor-free circuitry between the first, second, and third terminals." Claim 1 requires that the active element is "adapted to substantially balance the voltage imbalances between the pair of capacitors." Claim 1 also requires that the active element have "power connections to the first and third terminals." (E.g., See Fig. 1A) Claim 20 relates to a method for controlling voltage imbalances between a pair of capacitors connected in a series arrangement and includes similar limitations as in claim 1.

In contrast, the cited art fails to teach or suggest a module configured in the manner claimed. In particular, Fig. 2 of *Long* discloses a node above capacitor 204 (e.g., first terminal), a node between capacitors 204 and 206 (e.g., second terminal), and a node below capacitor 206 (e.g., third terminal). However, *Long* discloses having a separate op amp (e.g., 224 and 244) for

each of the capacitors (e.g., 204 and 206). As such, *Long* fails to teach or suggest that the op amp (e.g., 224 or 244) has power connections to the node above capacitor 204 (e.g., first terminal) and the node below capacitor 206 (e.g., third terminal).

The manner in which the module of the present invention is configured (e.g., having power connections to the first and third terminals) allows a single active element to substantially balance the voltage imbalances between a pair of capacitors. Furthermore, contrary to the circuitry shown in Fig. 2 of *Long*, the present invention allows fewer active elements for balancing multiple capacitors connected in a series arrangement. For example, compare Figs. 1A and 2 of Applicants' application (one active element to two corresponding capacitors) to Fig. 2 of *Long* (one op amp to one corresponding capacitor). Therefore, it is submitted that claims 1 and 20 are patentably distinct from the cited art.

The Examiner's rejections of the dependent claims are respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-12 each depend either directly or indirectly from independent claim 1 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claim 1. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

For example, claim 3 requires that "the output is connected to the second terminal." This allows a single active element to be interposed between a pair of capacitors and to substantially balance the voltage imbalances between the pair of capacitors. Once again, the present invention allows a minimal number of active elements required to substantially balance the voltage imbalances between multiple capacitors connected in a series arrangement.

NEW CLAIMS

New Claims 21-32 are believed to be patentable over the art of record for much the same reasons as claims 1 and 20. Support for the new claims can be found in original claims 1-12, Figs. 1A, and elsewhere.

SUMMARY

It is respectfully submitted that all pending claims are allowable and that this case is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. PWRSP009).

Respectfully submitted,
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